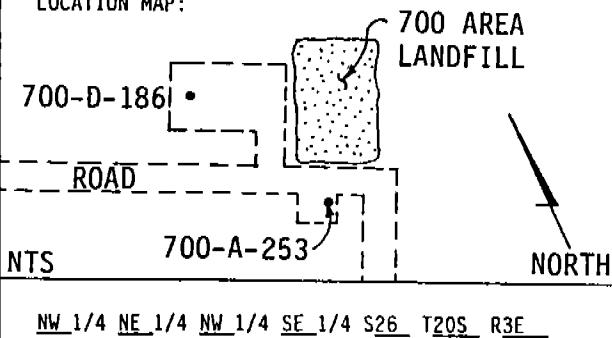


LITHOLOGIC LOG

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LOCATION MAP:

SITE ID: NASA-WSTF LOCATION ID: 700-A-253

SITE COORDINATES (ft.):

N 235422.96 E 417647.81GROUND ELEVATION (ft. MSL): 4908.14 (B.C.)STATE: NEW MEXICO COUNTY: DONA ANADRILLING METHOD: Mud/Air-Foam RotaryDRILLING CONTR.: Larjon Drilling Co.DATE STARTED: 10/30/89 DATE COMPLETED: 11/09/89FIELD REP.: G. Contaldo, P. LindleyCOMMENTS: 0'-60' mud rotary/12 1/2" bit reamed w/ 16" bit;60'-160' air-foam rotary (12 1/2" bit); 160'-287' air-foamLOCATION DESCRIPTION: rotary (9" air hammer bit). Bedrock encountered at 149'. Total Depth = 287'.

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
5		Orillograph (0'-60' mud rotary)	5	0'-287' (cuttings)	0'-149' Alluvium (Santa Fe Group): Very light gray (N8) to grayish black (N2), cuttings range in size from less than 0.1 inch to 0.8 inch, average cutting size is 0.25 inch. Cuttings are subrounded to angular and moderately poorly sorted. Unconsolidated to semi-consolidated polygenetic conglomerate containing clasts ranging in size from silt to boulders. Cutting lithologies include black (N1) to grayish black (N2) micritic limestone, very light grey (N8) to light grey (N7) rhyolite, moderate reddish brown (10 R 4/6) to dark reddish brown (10 R 3/4) siltstone, very light grey (N8) caliche, light brown (5 YR 5/6) fine to medium grained sandstone, grayish red (10 R 4/2) andesite, and moderate olive brown (5 Y 4/4) to pale olive (10 Y 6/2) chert.
10			6		10'-10' Clast size as above.
15			6		10'-30' Slight increase in average cutting size to 0.35 inch maximum.
20			7		
25			10		
30			13		30'-45' Decrease in average cutting size to 0.25 inch maximum.
35			13		
40			18		
45			9		45'-85' Increase in average cutting size to 0.4 inch maximum.
50			8		

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
50			8	Cuttings (cont'd)	
55			13		
60			13 (60'-160' air- foam rotary w/tricone bit) 9	60'-65'	Rounded olive grey (5 Y 4/1) cuttings are grout from the installation of surface casing.
65					
70			5		
75			11		
80			6		
85			6	85'-90'	Slight decrease in average cutting size to 0.3 inch maximum.
90			6	90'-100'	Increase in average cutting size to 0.4 inch maximum.
95			6		
100			5	100'-140'	Decrease in average cutting size to 0.3 inch maximum.
105			6		
110			7		
115			10		

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
115			10	Cuttings (cont'd)	
120			7		
125			8		
130			7		
135			7		
140			8		140'-149' Further decrease in average cutting size 0.2 inch maximum.
145			4		
150			15		149'-206' <u>Andesite (Orejon)</u> : Dark greenish gray (5G Y 4/1). Cuttings range in size from 0.1 to 0.4 inches, subangular to angular, consolidated. Aphanitic ground mass propylitically altered to epidote and chlorite. Phenocrysts consist primarily of prismatic hornblende crystals up to 0.2 inches in length, also minor amounts of relatively small plagioclase and quartz phenocrysts. Most hornblende phenocrysts exhibit oxidation rims (iron oxides) which range in color from light brown (5 YR 5/6) to moderate reddish orange (10 R 6/6).
155			25		
160			11 (160'-287' air-foam rotary w/air hammer bit)		160'-165' 15 to 20% alluvium uphole contamination.
165			11		
170			12		
175			11		
180			14		

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
				Cuttings (cont'd)	
180	VVVVVVVVVVVVVV		14		
185	VVVVVVVVVVVVVV		12		
190	VVVVVVVVVVVVVV		17		
195	VVVVVVVVVVVVVV		13		
200	VVVVVVVVVVVVVV		11		
205	VVVVVVVVVVVVVV		9		
210	/ / / / / / /		3		206'-287' <u>Micritic Limestone and Calcareous Siltstone (Panther Seep formation?)</u> : Micritic limestone cuttings are grayish black (N2) and calcareous siltstone cuttings are dusky yellow (5 Y 6/4). Cuttings indicate interbedded micritic limestone and calcareous siltstone and are consolidated and poorly sorted. Cuttings range in size from 0.1 to 0.3 inches. Cuttings are angular to subangular. Calcareous siltstone cuttings are less abundant (15% to less than 10% of total cuttings) from 225' to 287' and generally decrease with depth. Original texture destroyed due to intense silification. Effervesces violently with dilute HCL. Small fractures present in cuttings are filled with quartz. Minor amounts of sulfides present (pyrite?) within quartz.
215	/ / / / / / /		16		
220	/ / / / / / /		12		
225	/ / / / / / /		12		213' Bit chattered slightly.
230	/ / / / / / /		14		
235	/ / / / / / /		18		
240	/ / / / / / /		15		
245	/ / / / / / /		11		

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
245			11	Cuttings (cont'd)	
250			15		
255			17		
260			16		
265			9		
270			19		
275			16		
280			12		279' Bit chattered slightly. 280'-287' Limestone is extremely silicified, cuttings have a brecciated appearance. Reddish-brown staining within quartz is probably due to oxidation of iron sulfide minerals.
285			13		TD = 287'
290					
295					
300					
305					
310					